

What is claimed is:

1. A method comprising:

establishing a connection between a plurality of endpoints, including at least a requesting endpoint and one or more other participating endpoints;

initiating a connection from the requesting endpoint to at least a third endpoint, the requesting endpoint identifying to the third endpoint the one or more other participating endpoints; and

establishing a connection between the third endpoint and the one or more other participating endpoints identified by the requesting endpoint, the third endpoint identifying the requesting endpoint to the one or more other participating endpoints.

2. The method of claim 1 in which the connections between endpoints comprise connections that support unicast streams.

3. The method of claim 1 further comprising at each of the endpoints, mixing streams received from each of the other endpoints to form a logical conference.

4. The method of claim 1 further comprising, in response to the initiation of the connection from the requesting endpoint, establishing a connection from the third endpoint to the requesting endpoint.

5. The method of claim 1 in which initiating a connection comprises sending an H.323 setup request message that includes an identity of the one or more other participating endpoints.

6. The method of claim 5 in which sending the H.323 setup request message comprises formatting the H.323 setup request message to include the identity of the one or more other participating endpoints in a non-standard parameter field of the H.323 message.

7. The method of claim 1 in which establishing the connection between the third endpoint and the one or more other participating endpoints comprises sending an H.323 setup request message that includes an identity of the requesting endpoint.

8. The method of claim 7 in which sending the H.323 setup request message comprises formatting the H.323 setup request message to include the identity of the requesting endpoint in a non-standard parameter field of the H.323 message.

9. The method of claim 1 in which initiating a connection comprises using a Fast Connect procedure.

10. The method of claim 1 in which the initiating and establishing are repeated to form an N-way conference, where N is an integer greater than three.

11. The method of claim 1 in which initiating a connection to a third endpoint is performed in response to input received from a user of an Internet Protocol telephony application.

12. A method of facilitating a multipoint conference among three or more endpoints, the method comprising:

receiving from an requesting endpoint information comprising an invitation to establish a connection with the requesting endpoint and identifying one or more other participating endpoints participating in a conference with the requesting endpoint; and

sending to each of the other participating endpoints identified by the requesting endpoint an invitation to establish a connection and information identifying the requesting endpoint.

13. The method of claim 12 further comprising, in response to receiving an invitation from the requesting endpoint, establishing a connection with the requesting endpoint.

14. The method of claim 13 in which establishing the connection with the requesting endpoint is order independent from sending invitations to each of the other participating endpoints identified by the requesting endpoint.

15. The method of claim 12 in which receiving an invitation from the requesting endpoint comprises receiving an H.323 setup request message that identifies the one or more other participating endpoints in a non-standard parameter field.

16. The method of claim 12 in which sending an invitation to each of the other participating endpoints identified by the requesting endpoint comprises sending an H.323 setup request message that identifies the requesting endpoint in a non-standard parameter field.

17. The method of claim 12 further comprising, in response to sending invitations to the other participating endpoints, receiving from each of the other participating endpoints information establishing a connection.

18. The method of claim 12 further comprising mixing a plurality of unicast streams received from the inviting and other participating endpoints to form a logical conference.

19. The method of claim 18 in which the plurality of unicast streams include voice data or video data or both.

20. The method of claim 12 in which the receiving and sending are performed by an Internet Protocol telephony application.

21. Computer software, embodied in a computer-readable medium and/or a propagated carrier signal, comprising instructions for a computer system to perform the following:

receive from an requesting endpoint information comprising an invitation to establish a connection with the requesting endpoint and identifying one or more other endpoints participating in a conference with the requesting endpoint;

establish a connection with the requesting endpoint;

send to each of the other endpoints identified by the requesting endpoint an invitation to establish a connection and information identifying the requesting endpoint;

receive from each of the other endpoints information establishing a connection; and

mix a plurality of unicast streams received from the inviting and other endpoints to form a logical conference.

22. The software of claim 21 in which the instructions to cause the computer system to receive an invitation from the requesting endpoint comprise instructions to receive an H.323 setup request message that identifies the one or more other endpoints in a non-standard parameter field.

23. The software of claim 21 in which the instructions to cause the computer system to send an invitation to each of the other endpoints identified by the requesting endpoint comprise instructions to send an H.323 setup request message that

identifies the requesting endpoint in a non-standard parameter field.

24. The software of claim 21 in which the instructions are performed by an Internet Protocol telephony application.

25. An application comprising:

a user interface configured to receive from a user of the application input identifying one or more endpoints to be called to form a conference and to present a plurality of media streams to the user in a format that suggests inter-relatedness of the streams; and

H.323 protocol support for performing the following Internet Protocol (IP) telephony operations:

- (i) receive from an requesting endpoint information comprising an invitation to establish a connection with the requesting endpoint and identifying one or more other endpoints participating in a conference with the requesting endpoint;
- (ii) establish a connection with the requesting endpoint;
- (iii) send to each of the other endpoints identified by the requesting endpoint an invitation to establish a connection and

information identifying the requesting endpoint;

- (iv) receive from each of the other endpoints information establishing a connection; and
- (v) mix a plurality of unicast streams received from the inviting and other endpoints to form a logical conference.

26. The application of claim 25 wherein the application comprises a client application configured to be executed on a computer system associated with the user, the client configured to communicate with a remote server application to provide the user with IP telephony functionality.

27. The application of claim 25 wherein, if two or more of the unicast streams comprise audio information, the user interface is configured to overlay the audio streams to suggest inter-relatedness.

28. The application of claim 25 wherein, if two or more of the unicast streams comprise video information, the user interface is configured to display the video streams in adjacent display regions to suggest inter-relatedness.

29. The application of claim 25 in which the H.323 protocol support for receiving an invitation from the requesting

endpoint comprises support to receive an H.323 setup request message that identifies the one or more other endpoints in a non-standard parameter field.

30. The application of claim 25 in which the H.323 protocol support for sending an invitation to each of the other endpoints identified by the requesting endpoint comprises support to send an H.323 setup request message that identifies the requesting endpoint in a non-standard parameter field.

EPO 2000-05-15 09:55:55.000000000 DE-20000515095555.000000000